

Test tomorrow

7.1 Polynomial Functions

- degree odd/even
- leading coeff. +/-
- end behavior
- # real zeros

7.2 Graphs

- use calc to find zeros, rel. max, and rel. min

7.3 Quadratic Techniques

- u-substitution
- factoring

$$x^4 - 3x^2 + 12$$

$$u = x^2$$

$$u^2 - 3u + 12$$

7.4 Factor and Remainder Thms

- synthetic substitution
- k problems

7.5 Roots and Zeros

- Fund. thm. of algebra
- complex conjugates $3+i$ $3-i$
- write equation, given the roots

$$x^2 - \text{sum } x + \text{prod} = 0$$

7.6 Rational Zero thm.

- p's and q's
- double roots
- constant = 0

7.7 Operations on Functions

- + - \times \div
- Composition

7.8 Inverse Functions

- Find the inverse $[f \circ g](x) = x$
- Show it is the inverse $[g \circ f](x) = x$
- Graph the inverse

7.9 Square Root Functions
and Inequalities

- graph (table of values)
- domain and range